

FIG 1A

AAV-1	ttgcccactccctctcgcgctcgctcgctcggtgggcctcgccggacaaagggtccgc	60
AAV-2	...g.....ac..a....g.gc.....gc.	60
AAV-6	...g.....ac..a....g.gc.....gc.	60
Rep binding site		
AAV-1	agacggcagagctctgcttgccggccaccgagcgagcgccgcagagaggagtg	120
AAV-2	c....c.c.g....t...c.g.g....t..gt.....	120
AAV-6	c....c.c.g....t...c.g.g....t..gt.....	120
TRS*		
AAV-1	ggcaactccatcacttagggtaaTCGCGAACGCCTCCACGCTGCCGCGTCAGCGCTGA	180
AAV-2	.c.....-..ct.G..G-----TG.A..G-----	163
AAV-6	.c.....-..ct.G..G-----TG.A..G-----	163
E box/USF		
AAV-1	CGTAAATTACGTCATAGGG---GAGTGGCCTGTATTAGCTGTCACGTGAGTGCTTTGC	237
AAV-2	...G.....TTA.G.A.....AG.....	222
AAV-6	...G.....TTA.G.A.....AG.....	222
YY1		
P5/TATA		
AAV-1	GACATTTGCGACACCACGTGGCCATTAGGGTATATGGCCGAGTGAGCGAGCAGGAT	297
AAV-2	.....T...T..CGCT.....T..A.C.....AC.....G.	282
AAV-6	.....T...T..CGCT.....T..A.C.....AC.....G.	282
YY1/p5 RNA		
Rep 78/68		
AAV-1	CTCCATTGAC-CGCGAAATTGAACGAGCAGCAGCCATGCCGGCTTCTACGAGATCG	356
AAV-2	.....AG..G..GG.....C.....C.....G..T.....T.	342
AAV-6	.....AG..G..GG.....C.....-.....G..T.....T.	341
AAV-1	TGATCAAGGTGCCGAGCGACCTGGACGAGCACCTGCCGGCATTCGACTCGTTGTGA	416
AAV-2	....T....C..C.....T....G..T....C.....AGC.....	402
AAV-6	....T....C..C.....T....T....C.....AGC.....	401
AAV-1	GCTGGTGGCCGAGAAGGAATGGGAGCTGCCCGGATTCTGACATGGATCTGAATCTGA	476
AAV-2	A.....T....G..A.....	462
AAV-6	A.....T....G..A.....	461
AAV-1	TTGAGCAGGCACCCCTGACCGTGGCCGAGAAGCTGCAGCGCAGTCCTGGTCCAATGGC	536
AAV-2	.....T.....T....ACGG.....	522
AAV-6	.....T.....G.....	521
AAV-1	GCCCGTGAGTAAGGCCCGGAGGCCCTTTCTTGTTCAGTTGAGAAGGGCGAGTCCT	596
AAV-2	....T.....T....G..A..T.....A..AG..	582
AAV-6	.....T.....G.....	581
AAV-1	ACTTCCACCTCCATATTCTGGTGGAGACCACGGGGTCAAATCCATGGTGTGGCCGCT	656
AAV-2	.....A.G..CG.G..C.....A.....C.....G.....TT....A..T..	642
AAV-6	.....T.....G.....	641
AAV-1	TCCTGAGTCAGATTAGGGACAAGCTGGTGCAGACCATCTACCGCGGGATCGAGCCGACCC	716
AAV-2	.....C.C..A..A..A.T....GA..T.....TT	702
AAV-6	.....T.....G.....	701
AAV-1	TGCCCAACTGGTCGCGGTGACCAAGACGCGTAATGGCGCCGGAGGGGGAAACAAGGTGG	776
AAV-2	....A.....C..A....CA.A.....C.....	762
AAV-6	.....T.....G.....	761

FIG 1B

AAV-1	TGGACGAGTGCTACATCCCCA AAV-2	.....T..... AAV-6	.....	ACTACCTCCTGCCAAGACTCAGCCGAGCTGCAGTGGG.....T.G..C.....A.C.....T.....C.....	836 822 821
				P19/TATA	P19 RNA
AAV-1	CGTGGACTAACATGGAGGAGT AAV-2	.....T.....AC..... AAV-6	.....C.....GG.....	A.....T.....G.....C.....G.....T.....CA.....G.....A..... .....C.....GG.....A.....G.....A.....C.....GG.....C.....	896 882 881
AAV-1	TCGTGGCGCAGCACCTGACCC AAV-2	.....G.....T..... AAV-6	.....G.....CG.....	C.....G.....AGC.....AC.....G.....AG.....A.....A..... .....G.....GTCG.....G.....A.....A.....	956 942 941
				Rep 52/40	
AAV-1	ACCCCATTCTGACGCGCTGT AAV-2	.....T.....G.....A.A..... AAV-6	.....	C.....T.....G.....A.....A.....T.....A.....CA.....G..... .....A.....	1016 1002 1001
AAV-1	TCGGGTGGCTGGGACCGGGGC AAV-2	.....C.....AA.....G.....T..... AAV-6	.....	A.....G.....T.....G.....	1076 1062 1061
AAV-1	CCTCGTACATCTCCTTCAAC AAV-2	.....A.....,.....T.....G.....C..... AAV-6	.....	.....,.....A.....,.....T.....CT.....	1136 1122 1121
AAV-1	ACAATGCCGGCAAGATCAT AAV-2	.....G.....A.....T.....AGC.....T.....A.....C.....,.....,.....G.....AGC AAV-6	.....	.....T.....AG.....T.....CT.....	1196 1182 1181
AAV-1	CTCCGCCCGCGGACATTAAA AAV-2	ACCGA.....T.....G.....T.....TAAA.....TT.....A.....A.....G..... AAV-6	.....C.....	.....AC.....G.....T.....G.....T.....A.....A.....G..... .....T.....	1256 1242 1241
AAV-1	AACCTGCCTACGCCGGCTCGT AAV-2	CTTCTCGGCTGGGCCAGAAA AAV-6	.....T.....CAA.....T.....G.....CT.....G.....A.....A.....C.....A.....G..... .....C.....	.....AG.....TT.....GGGAAGCGCA..........A.....A.....	1316 1302 1301
AAV-1	ACACCATCTGGCTGTTGG AAV-2	GGCCGGCCACCACGGCAAG AAV-6	.....A.....T.....C.....G..... .....	.....AC.....A.....G.....A.....	1376 1362 1361
AAV-1	CCCACGCCGTGCC AAV-2	CTTCTACGGCTGCGTCA AAV-6	ACTGGACCAATGAGAA.....A.T.....G.....A.....	ACTTCCCTTAATG.....A.....G.....A..... .....C..... .....C.....	1436 1422 1421
AAV-1	ATTGCGTCGACAAGATGG AAV-2	GATCTGGTGGGAGGG AAV-6	CAAGATGACGGCCAAGGT.....C.....T.....G.....A..... .....G.....C.....	CGTGG 1496.....G.....C..... .....C.....	1496 1482 1481
AAV-1	AGTCCGCCAAGGCCATT AAV-2	CTCGGCCAGCAAGGT AAV-6	CTCGCGTGGACCAAAAGT.....G.....A.....A..... .....G.....A..... .....C.....	GCAAGTCGT 1556.....A.....A..... .....G.....A..... .....C.....	1556 1542 1541
AAV-1	CCGCCAGATCGAC AAV-2	CCCCACCCACCC AAV-6	CGTACGTACCTCCA.....G.....A.....G.....T..... .....T.....	ACACCAACATGTGCGCCGT 1616.....A.....G.....T..... .....T.....	1616 1602 1601

FIG 1C

AAV-1	TTGACGGAACAGCACCACTTCGAGCACAGCAGCCGTTGCAGGACCGGATGTTCAAAT	1676
AAV-2	.....TCA..G.....A.....A.....A.....	1662
AAV-6	.....	1661
AAV-1	TTGAACTCACCCGCCGTCTGGAGCATGACTTTGGCAAGGTGACAAAGCAGGAAGTCAAAG	1740
AAV-2	.....T.....G.....C..C.....	1722
AAV-6	.....	1721
AAV-1	AGTTCTTCCGCTGGCGCAGGATCACGTGACCGAGGTGGCGCATGAGTTCTACGTCAAGA	1796
AAV-2	.C..T.....G.....AA.....GTT.....A.....A.....A..	1782
AAV-6	.....	1781
P40/TATA		
AAV-1	AGGGTGGAGCCAACAAAAGACCCGCCCCGATGACGCGGATAAAAGCGAGGCCAAGCGGG	1856
AAV-2	.....G.....AG.....A....T....T.....A....	1842
AAV-6	.....G.....	1841
P40 RNA		
AAV-1	CCTGCCCTCAGTCGCGGATCCATCGACGTAGACGCGGAAGGAGCTCCGGTGGACTTTG	1916
AAV-2	TGC..GAG.....T...C.G.....T...T..A.CA...AC.	1899
AAV-6	.....	1901
▼		
AAV-1	CCGACAGGTACCAAAACAAATGTTCTCGTCACGCAGGCATGCTTCAGATGCTGTTCCCT	1976
AAV-2	.A.....T.....AA..T.....	1959
AAV-6	.....	1961
AAV-1	GCAAGACATGCGAGAGAATGAATCAGAACATTCAACATTGCTTACGCACGGGACGAGAG	2036
AAV-2	..GACA.....CA..T..C.....T.....ACA..A..	2019
AAV-6	....A.....C....	2021
AAV-1	ACTGTTCAGAGTGCTTCCCCGGCGTGTCAAGAACCTCAACCGGTCTGAGAAAGAGGA	2093
AAV-2	.....T.....T.....C..TTCT...GTC..A.A.G	2076
AAV-6	.....A..T.....	2078
AAV-1	CGTATCGGAAACTCTGTGCCATTCATCTGCTGGGGCGGGCTCCGAGATTGCTTGCT	2153
AAV-2	.....A.....G..CTA.....A.CA...AAA..TG..A....C.....A	2133
AAV-6	.....	2138
Rep 78 stop		
AAV-1	CGGCCTGCGATCTGGTCAACGTGGACCTGGATGACTGTGTTCTGAGCAATAATGACTT	2213
AAV-2	..T.....T.....CA.C.T..A.....T..	2193
AAV-6	.....T.....	2193
▼ VP1 ▼ Rep 68 stop		
AAV-1	AAACCAGGTATGGCTGCCATGGTTATCTTCCAGATTGGCTCGAGGACAACCTCTGAG	2273
AAV-2	...T.....T.....CT.....A	2253
AAV-6	.....	2258
AAV-1	GGCATTGCGAGTGGTGGACTTGAAACCTGGAGCCCCGAAGCCAAAGCCAACCAGCAA	2333
AAV-2	..A..AA.AC.....A.GC.C.....CC.A..ACCA..A..GC..GCAG..GG	2313
AAV-6	.....A.....	2318
AAV-1	AAGCAGGACGACGGCCGGGTCTGGTCTTCCGGCTACAAGTACCTCGGACCCCTAAC	2393
AAV-2	C.TA.....A..A.....T.....G.....	2373
AAV-6	.....G..C.....G.....C.....	2378

FIG 1D

AAV-1	GGACTCGACAAGGGGAGCCGTCAACGC GGACGCAGCGGCCCTCGAGCACGACAAG	2453
AAV-2	.....A.....G.....A.....A.....C.....A	2433
AAV-6	.....T.....	2438
AAV-1	GCCTACGACCAGCAGCTCAAAGCGGGTGACAATCCGTACCTGCGGTATAACCACGCCGAC	2513
AAV-2	.....G.....G.CAGC..A.....C.....CAA..C.....	2493
AAV-6	.....A.AGCG..T.....T.....GCG..T.....	2498
AAV-1	GCCGAGTTTCAGGAGCGTCTGCAAGAAGATACTGTCTTTGGGGCAACCTCGGGGAGCA	2573
AAV-2	.G.....C..TA.....	2553
AAV-6	.C.....T..GC.....	2558
AAV-1	GTCTTCAGGCCAAGAAGCGGGTTCTGAACCTCTCGGTCTGGTTGAGGAAGGCGCTAAG	2633
AAV-2	.....G..A...A.....T.....G..C.....CCT..T....	2613
AAV-6	.....A.....T..T.....T.....	2618
VP2		
AAV-1	<u>ACGGCTCCTGGAAAGAAACGTCCGGTAGAGCAGTCGCCACAAGAGCCAGACTCCTCCTCG</u>	2693
AAV-2	.....G.....A..GA.G.....C..T..TGTG.....	2673
AAV-6	.....T.....G..AC.T.....G..G..ACAA.....	2678
AAV-1	GGCATCGGCAAGACAGGCCAGCAGCCCCGCTAAAAAGAGACTCAATTGGTCAGACTGGC	2753
AAV-2	..A.C...A...G.G.....T..A.G...A...T.G.....A	2733
AAV-6	.....T.....	2738
AAV-1	GACTCAGAGTCAGTCCCCGATCCACAAACCTCTCGGAGAACCTCCAGCAACCCCCGCTGCT	2813
AAV-2	...G....C.....A..T..C..C..G.....C.G..A.....G.....T..G.	2793
AAV-6	...T....G....C..C..C..A..A.....G.A..T.....A.....G.....	2798
VP3		
AAV-1	GTGGGACCTACTACAATGGCTTCAGGCGGTGGCGCACCAATGGCAGACAATAACGAAGGC	2873
AAV-2	C.....A...A...G.....A.....A.....	2853
AAV-6	.....	2858
AAV-1	GCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCGATTCCACATGGCTGGCGAC	2933
AAV-2	.....T...C.....	2913
AAV-6	.....	2918
AAV-1	AGAGTCATCACCACCAAGCACCCGCACCTGGCCTGCCACCTACAATAACCACCTCTAC	2993
AAV-2	.....A.....C.....C.....	2973
AAV-6	.....A..A.....T..C.....	2978
AAV-1	AAGCAAATCTCCAGTGCTTCAACGGGGGCCAGCAACGACAACCACTACTCGGCTACAGC	3053
AAV-2	..A.....T.....CAA.....A..TCG.....T.....T.....	3030
AAV-6	.....	3038
AAV-1	ACCCCCTGGGGTATTTGATTCAACAGATTCCACTGCCACTTTCACCACTGTGACTGG	3113
AAV-2	.....T.....C.....	3090
AAV-6	.....T..C.....	3098
AAV-1	CAGCGACTCATACAACAATTGGGGATTCCGGCCAAGAGAGACTCAACTCAAACCTCTTC	3173
AAV-2	..AA.....C.....A.....G.....T	3150
AAV-6	.....	3158
AAV-1	AACATCCAAGTCAAGGAGGTACGACGAATGATGGCGTCACAACCATCGCTAATAACCTT	3233
AAV-2	.....T.....A.....CA.....C..TACG..G..G..T..C.....	3210
AAV-6	.....G.....	3218

FIG 1E

AAV-1	ACCAGCACGGTTCAAGTCTTCGGACTCGGAGTACCAAGCTTCCGTACGTCCCTCGGCTCT	3293
AAV-2	.....G..G..TA.T.....C.....G	3270
AAV-6	.....T.G.....	3278
AAV-1	GCGCACCAAGGGCTGCCTCCCTCCGTTCCGGGGACGTGTTCATGATTCCGCAATACGGC	3353
AAV-2	....T..A..A.....G.....A..A.....C.....G.G..A..G..T..A	3330
AAV-6	.....G.....	3338
AAV-1	TACCTGACGCTAACAAATGGCAGCCAAGCCGTGGACGTTCATCCTTTACTGCCTGGAA	3413
AAV-2	....C..C..G.....C..G..T..A..A.....C..T..A.....G	3390
AAV-6	....A.....G..A.....G	3398
AAV-1	TATTTCCCTTCTCAGATGCTGAGAACGGGAAACAACCTTACCTTCAGCTACACCTTGAG	3473
AAV-2	..C..T.....C.T..C..A.....T.....T	3450
AAV-6	.....A..G.....T.....C..	3458
AAV-1	GAAGTGCCTTCCACAGCAGCTACGCGCACAGCCAGAGCCTGGACCGGCTGATGAATCCT	3533
AAV-2	..C..T.....T.....T.....T..C.....	3510
AAV-6	..C.....	3498
AAV-1	CTCATCGACCAATACCTGTATTACCTGAACAGAACTCAAATCAGTCCGGAAGTGCCAA	3593
AAV-2	.....G.....T..G.....AA.C.C..CAAGT...CCA..ACG	3570
AAV-6	.....G.....G.....	3578
AAV-1	AACAAGGACTTGCTGTTAGCCGTGGGTCTCCAGCTGGCATGTCTGTTAGCCCCAAAAC	3653
AAV-2	C.GTCAAGGC.T.A...TCT..AG.CCGGAG.GAG..A..TCGG.AC...T.T.GG...	3630
AAV-6	.....G.....	3638
AAV-1	TGGCTACCTGGACCCCTGTTATCGGCAGCAGCGCGTTCTAAAACAAAAACAGACAAC	3713
AAV-2	....T.....C..C.....A..A.CA..G...TCTG..G..T.....	3690
AAV-6	.....C.....	3698
AAV-1	AACAGCAATTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGCGTGATCCATC	3773
AAV-2	....TG..A..ACT..G.....A..A.C..G..CC.....CA..A..C..TC..G	3750
AAV-6	.....C.....T.....T..A	3758
AAV-1	ATCAACCTGGCACTGCTATGGCCTCACACAAAGACGACGAAGACAAGTTCTTCCATG	3833
AAV-2	G..G..T..G..GC..C..C.....AAGC.....G.....T.....A.....T.....TCA.	3810
AAV-6	.....A.....	3818
AAV-1	AGCGGTGTCAATTGAAAGAGAGCGCCGGAGCTTCAAACACTGCATTGGACAAT	3893
AAV-2	....G..TC..C..C.....G..GC..AG..T..A..AGAAA...TGTGAACA..T..A..G	3870
AAV-6	.....G.....	3878
AAV-1	GTCATGATTACAGACGAAGAGGAAATTAAAGCCACTAACCTGTGGCCACCGAAAGATT	3953
AAV-2	.....CGG..A..A..C..T..C.....T..G..GCAG..A.	3930
AAV-6	.....C.....C.....C.....	3938
AAV-1	GGGACCGTGGCA GTCAATTCCAGAGCAGCACAGACCCCTGCGACCGGAGATGTGCAT	4013
AAV-2	..TT..T..AT..TAC..CC.....AG..A..G.C..AG..A..T..C.....CA..C	3990
AAV-6	.....T.....C.....	3998
AAV-1	GCTATGGGAGCATTACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTGCAGGGTCCC	4073
AAV-2	A..ACAA..C..TTC..T..A.....C.....G..C.....T.....T.....G..	4050
AAV-6	T.....C.....A.....C.....A.....	4058

FIG 1F

AAV-1	ATTTGGGCCAAAATTCTCACACAGATGGACACTTCACCCGCTCCTCTTATGGCGGC	4133
AAV-2	..C.....A..G.....A.....G.C.....T.....C.....C..C.....T..A	4110
AAV-6	.....G.....G.....C.....C.....G.....C.....C.....	4118
AAV-1	TTTGGACTCAAGAACCCGCCTCCTCAGATCCTCATCAAAAACACGCCTGTTCTGCGAAT	4193
AAV-2	..C.....T..AC....T.....A.....T.....G.....C..G..A.....	4170
AAV-6	.....T..C.....	4178
AAV-1	CCTCCGGCGGAGTTTCAGCTACAAAGTTGCTTCATTCCATCACCCAAACTCCACAGGA	4253
AAV-2	..T..A.CACC..CAGT..GG.....C.....A..G.....G...	4230
AAV-6	.....A.....G.....G..T.....	4238
AAV-1	CA-AGTGAGTGTGGAAATTGAATGGGAGCTGCAGAAAGAAAACAGCAAGCGCTGGAATCC	4312
AAV-2	..CG..C..C.....G..C..G.....G.....A.....	4290
AAV-6	...-.....C.....G.....A.....	4297
AAV-1	CGAAGTGCAGTACACATCCAATTATGCCAA-CTGCCAA-CGTTGATTTACTGTGGACA	4371
AAV-2	....A.T.....T.....C..CAAC..G....TT..T..G..C.....C.....T..	4350
AAV-6	.....T.....T..C.....-.....C.....	4356
AAV-1	ACAATGGACTTTACTGAGCCTGCCCATGGCACCCGTTACCTTACCCGTCCCCTGT	4431
AAV-2	CT.....CG.G...T.A.....A.A.....G..T..AAT....	4410
AAV-6	.....C.....	4416
 VP1-3 stop PolyA signal		
AAV-1	AATTACGTGTTAATCAATAAACCGGTTGATTGTTCAAGTTGAACCTTGGTCTCCTGTCC	4491
AAV-2	....G.T.....T..A.....TGCGTA	4470
AAV-6	....GT.....A.....G.....A....G	4476
AAV-1	TTCTTATCTTATC-GGTTACCATGGTTAT-AGCTTACACATTA--ACTGCTTGGTTGCGC	4547
AAV-2	..TC..T.....TA..T.....C..CGTAGA..AGT..GC..TGG..G..G..AA..CATTA	4530
AAV-6	..A.....T..C.....A..CA..C-C..G.....-.....A.....	4533
AAV-1	TTCGCGATAAAAGACTTACGTACGGGttacccctagtgatggagttgccactccctc	4607
AAV-2	ACTA..A..gg..a-----g.....	4570
AAV-6	.....at-----	4572
AAV-1	tctgcgcgctcgctcgctcggtggggccggcagagcagagctctgccgtctgcggacctt	4667
AAV-2	..c.....ac..a.....gc..c..a..g..gc..a..gc..c..gg..	4630
AAV-6	..a.....g.....	4632
AAV-1	tggccgcaggccccaccgagcgagcgagcgagcagagaggagtgccc	4718
AAV-2	..cc..g..gc....t..gt.....C...	4681
AAV-6	.....t.....	4683

AAV-1 TR

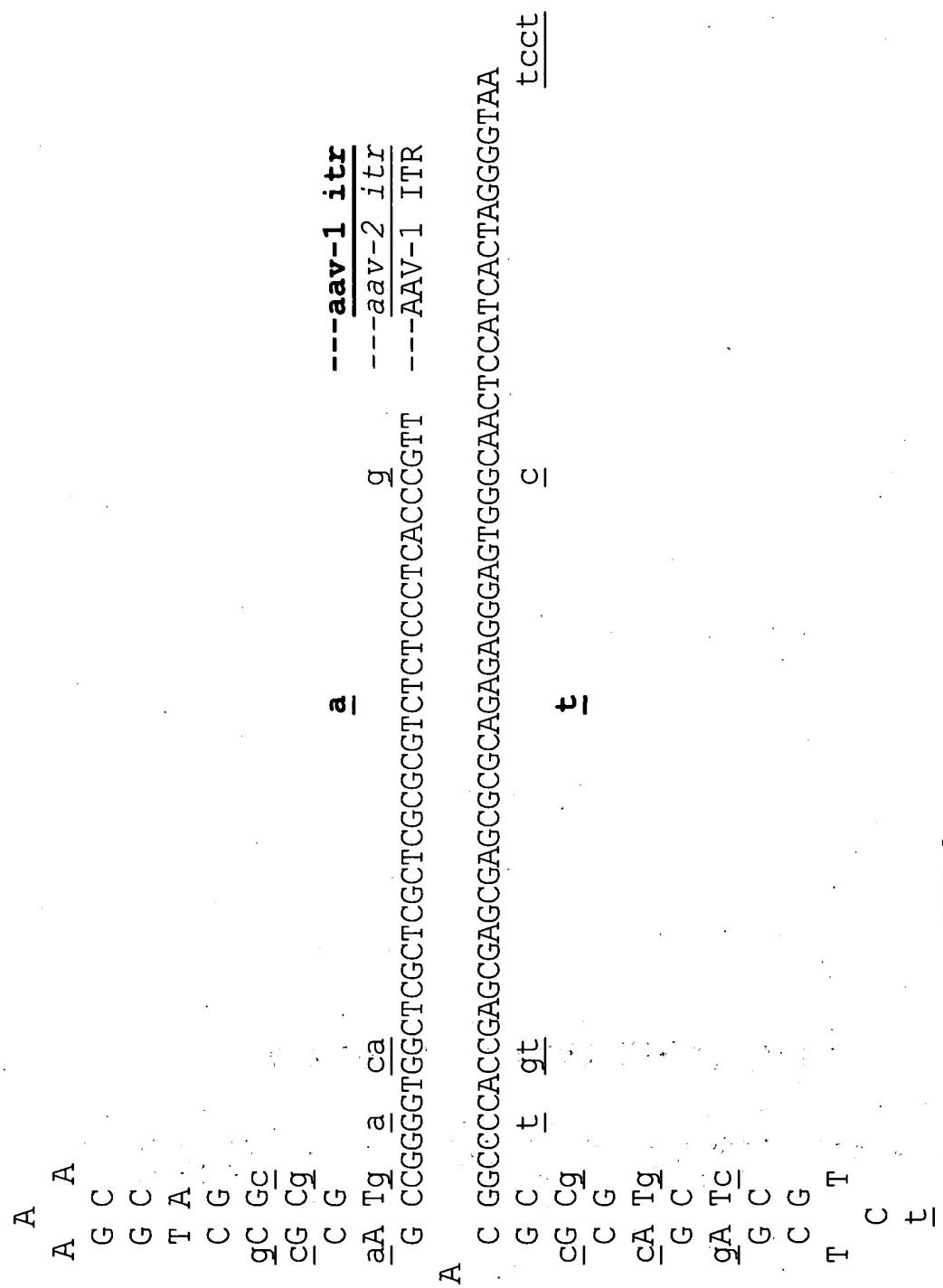


FIG 2

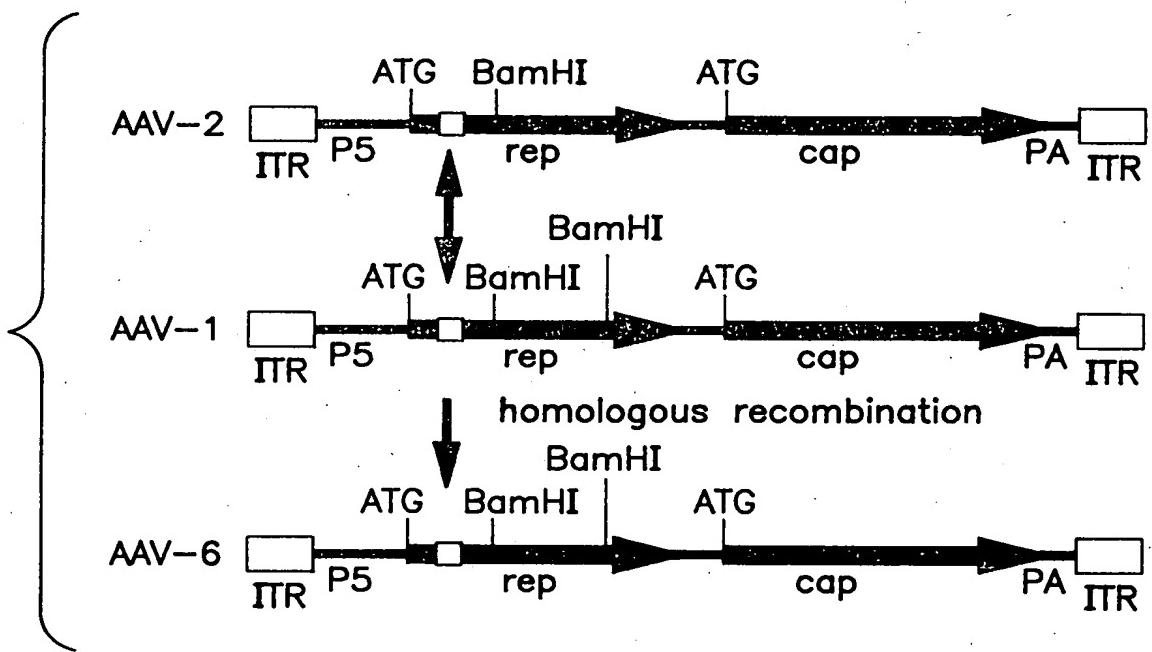


FIG. 3A

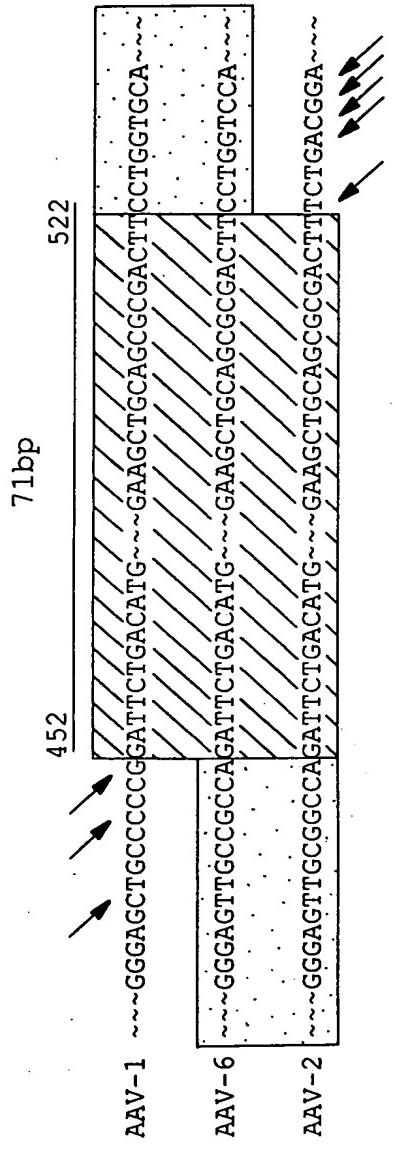


FIG. 3B

FIG. 4A

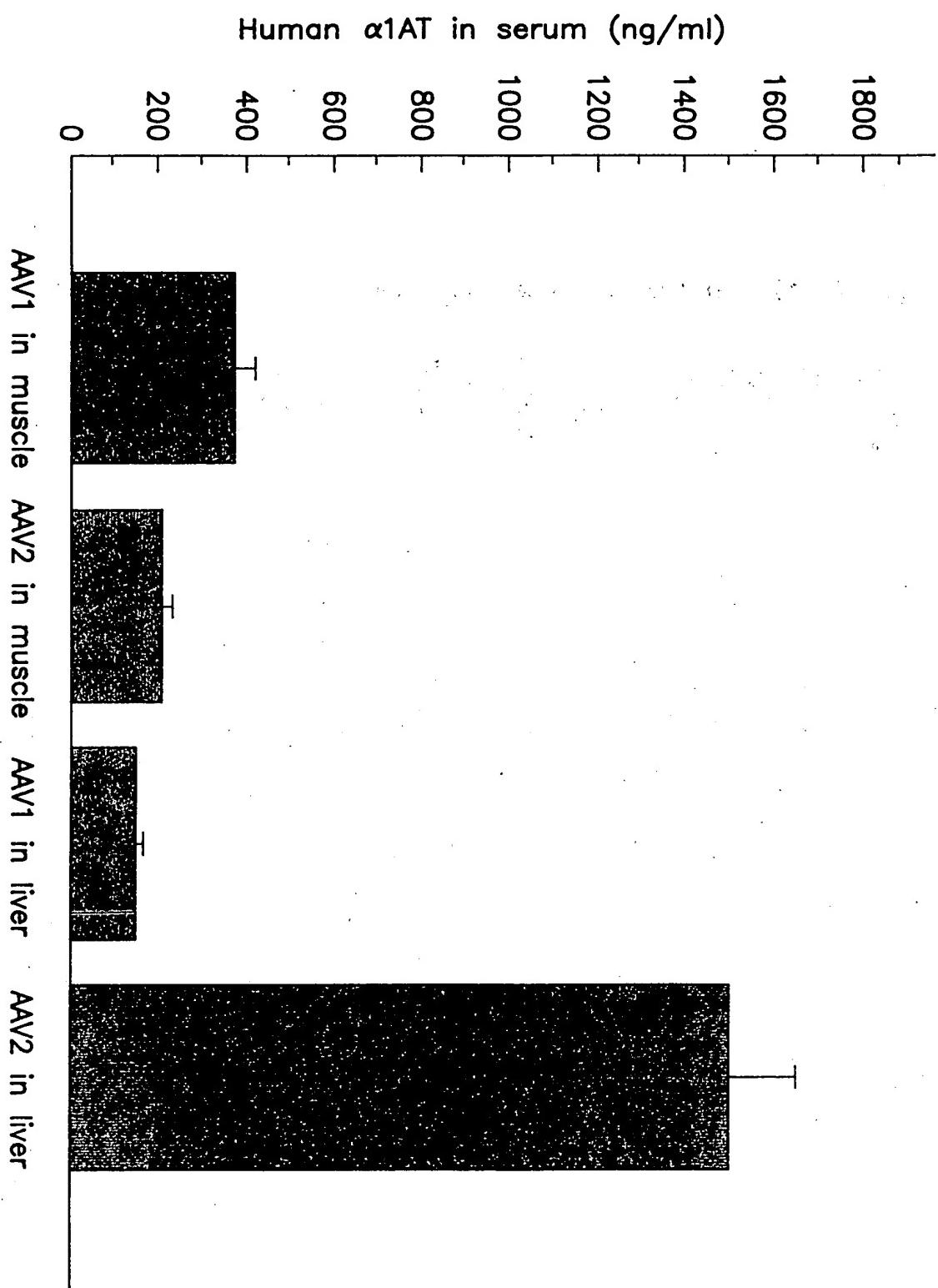


FIG. 4B

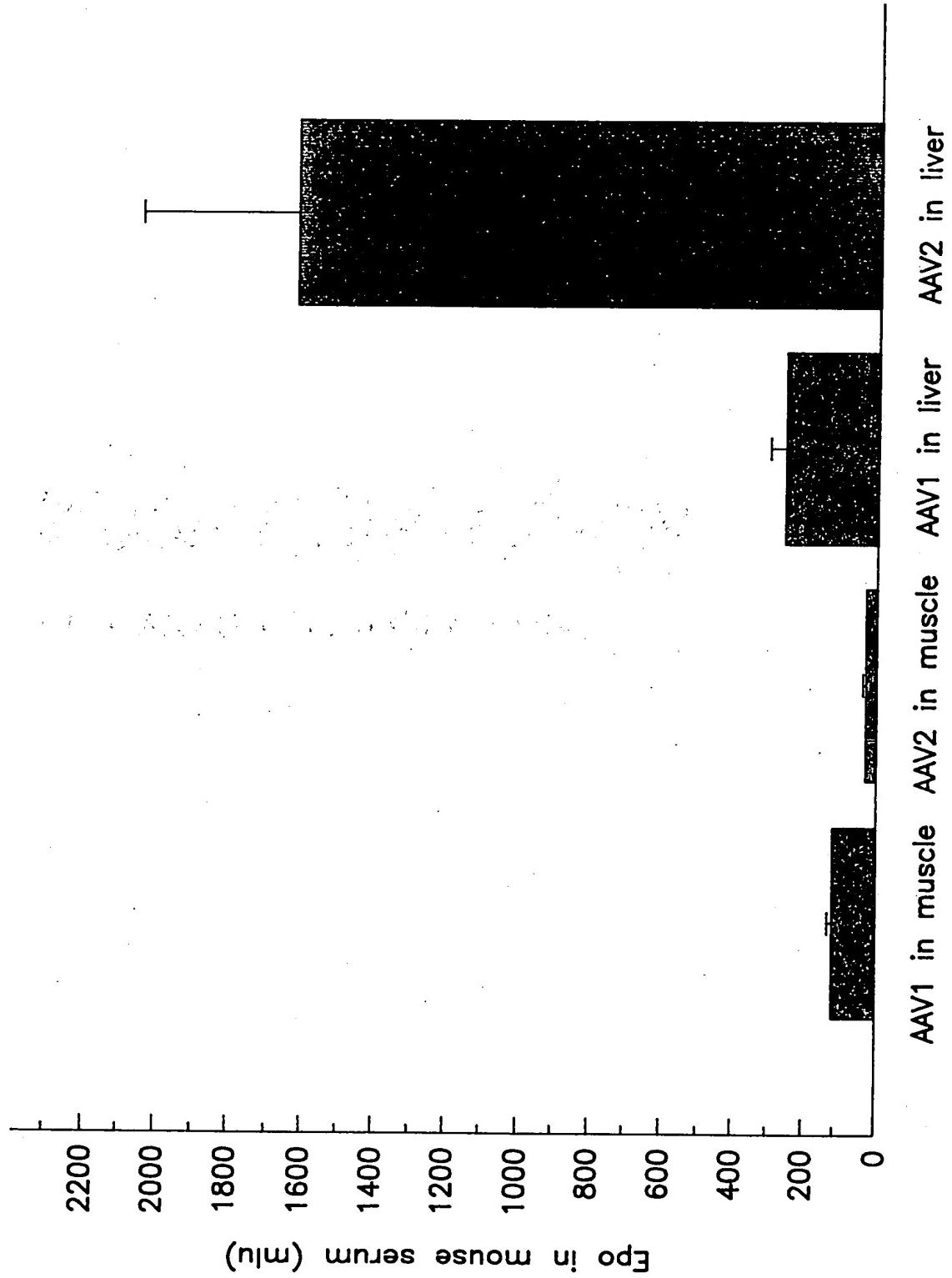


FIG. 5A

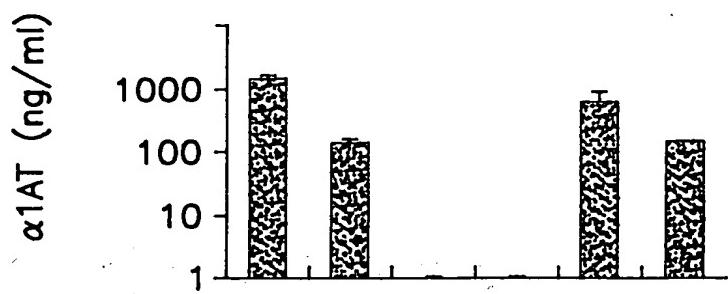


FIG. 5B

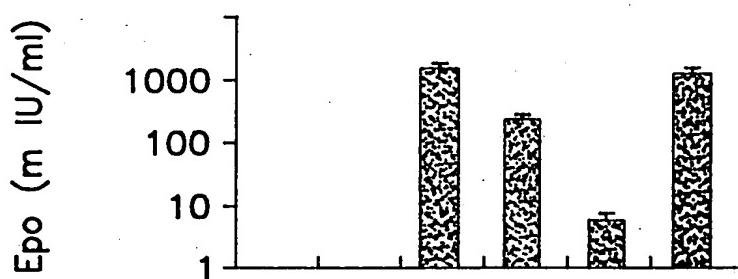


FIG. 5C

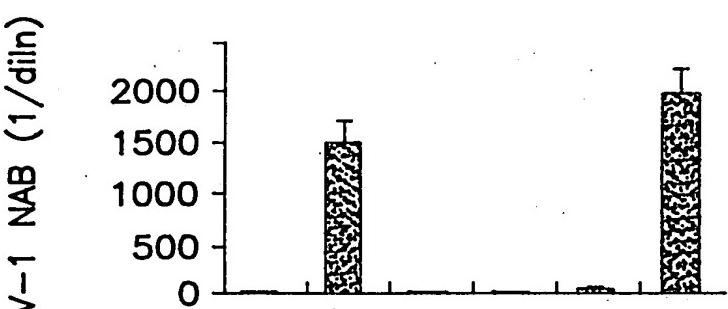
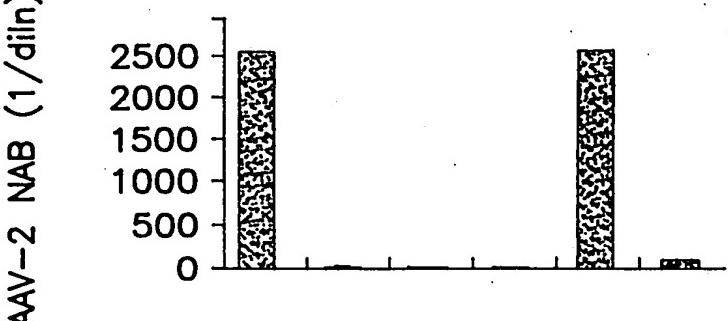


FIG. 5D



Group	1	2	3	4	5	6
Vector1 - $\alpha 1AT$	AAV2	AAV1	PBS	PBS	AAV2	AAV1
Vector2-EPO	AAV2	AAV1	AAV2	AAV1	AAV1	AAV2

FIG. 6A

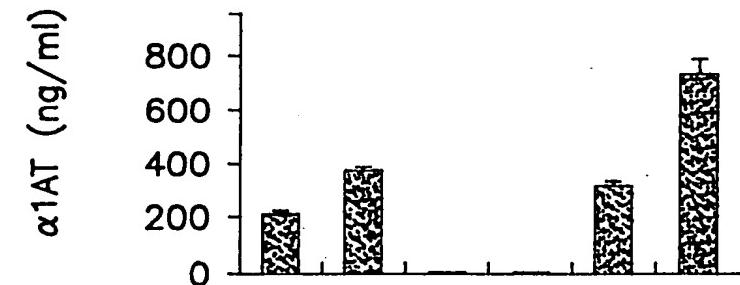


FIG. 6B

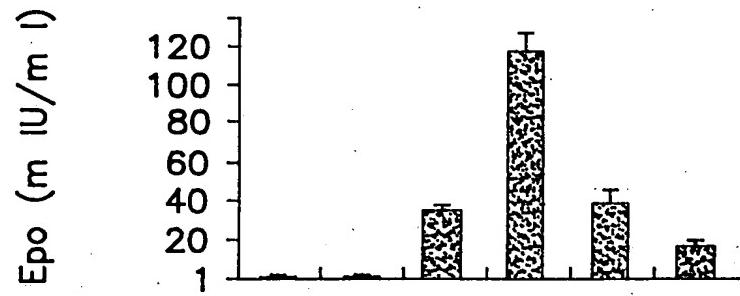


FIG. 6C

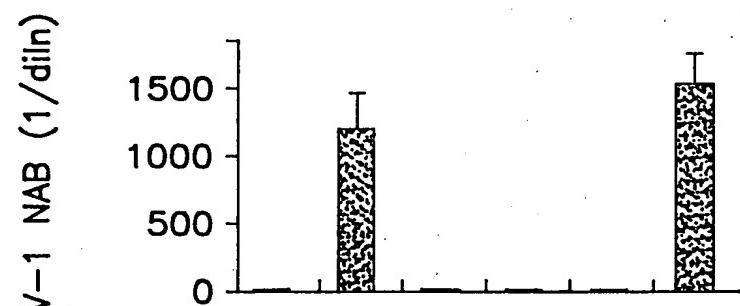
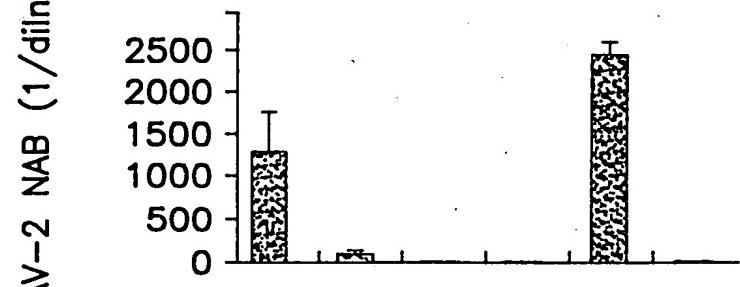


FIG. 6D



Group	1	2	3	4	5	6
Vector1 - $\alpha 1\text{AT}$	AAV2	AAV1	PBS	PBS	AAV2	AAV1
Vector2-EPO	AAV2	AAV1	AAV2	AAV1	AAV1	AAV2